

A redescription of *Sosibia lysippus* (Westwood, 1859).

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Abstract

Necroscia lysippus Westwood, 1859 was described from a single female without any fore legs. A specimen with fore legs has been found at Danum Valley, Sabah and is described and illustrated, along with an egg. The species is transferred to *Sosibia* Stål, 1875.

Key words

Phasmida, *Sosibia lysippus*, *Necroscia lysippus*, Redescription, Danum Valley, Sabah, Borneo.

Introduction

Westwood (1859) described *Necroscia lysippus* from a single female specimen that had been collected in Borneo by Alfred Russell Wallace. Most of Wallace's time in Borneo was spent in what is now Sarawak, but there is no information about the origin of the specimen other than 'Borneo'. The specimen lacked fore legs when Westwood described the species and there are no subsequent records of this species. Based on Westwood's description and illustration only, Redtenbacher (1908: 545) transferred the species to *Sipylodea* Brunner, 1893.

In November 2005 Darren Mann collected a small number of phasmids at Danum Valley, Sabah (fig. 8); these included a female specimen of *lysippus* which was identified by direct comparison with the holotype. The specimen has short, widened fore legs that lead me to transfer the species to the genus *Sosibia* Stål, 1875.

***Sosibia lysippus* (Westwood, 1859) comb.nov.**

Necroscia lysippus Westwood, 1859: 136, pl. 39.3 (♀). Holotype ♀ (OXUM, 666) Borneo, coll. Wallace.

Necroscia (?) *lysippus* Westwood; Kirby, 1904b: 378.

Sipylodea lysippus Westwood; Redtenbacher, 1908: 545; Bragg, 2001: 602; Otte & Brock, 2005: 319.

Material examined

BORNEO, ♀ Holotype (OXUM, Type No. 666) Wallace.

SABAH, Danum valley, Danum 1, ♀ (OXUM) at night. D.J. Mann, 07.xi.2005.

The holotype lacks fore legs and has a piece of wood inserted in the abdomen. The following description is based on the specimen collected by Darren Mann.

Female (figs 1-5)

Head, body and legs almost uniformly greyish-brown. Antennae brown with dark bands. Costal area of wing greyish-brown, rest of costal area brown, anal region translucent brown with dark brown veins; base of anal region red with blackened area posterior to this. [Westwood's holotype has a body that is mainly light brown with some darker markings, otherwise the coloration is similar.]

Body long and slender, of uniform width except for swollen 6th abdominal segment; fore legs notably short. Head slightly granulose. Pronotum and mesonotum granulose; metanotum and abdominal tergites covered by the wings (1st-5th) smooth, beyond the wings (6th-10th) rugulose. Mesosternum, metasternum, mesopleura, and metapleura sharply granulose. Legs setose, particularly the fore legs. Measurements are given in table 1.

Head 1.5 times longer than wide. Antennae much longer than fore legs (broken, so full length unknown); with basal segment flattened, almost as wide as long; second segment twice as long as wide, slightly swollen; remainder slender. Pronotum almost twice as long as wide. Mesonotum six times longer than wide. Median segment slightly longer than metanotum. Abdominal segments 2-5 of equal length, three times longer than wide; 6th with a verrucose

swelling, 6th and 7th each 20% shorter than their preceding segment; 8th only slightly more than half the length of 7th segment; 9th about half as long as 8th; 10th as long as 9th with the apex narrowed and rounded. Cerci with broadened apices. Operculum reaching almost to end of 10th tergite, with apex rounded. Praeopercular organ a setose, raised “Y” shape (fig 2).

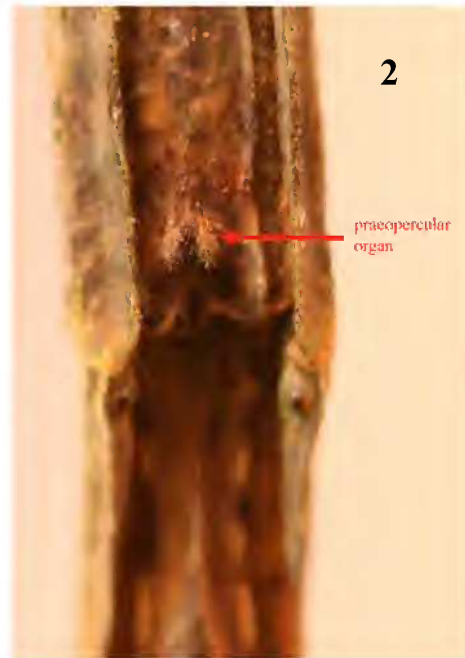
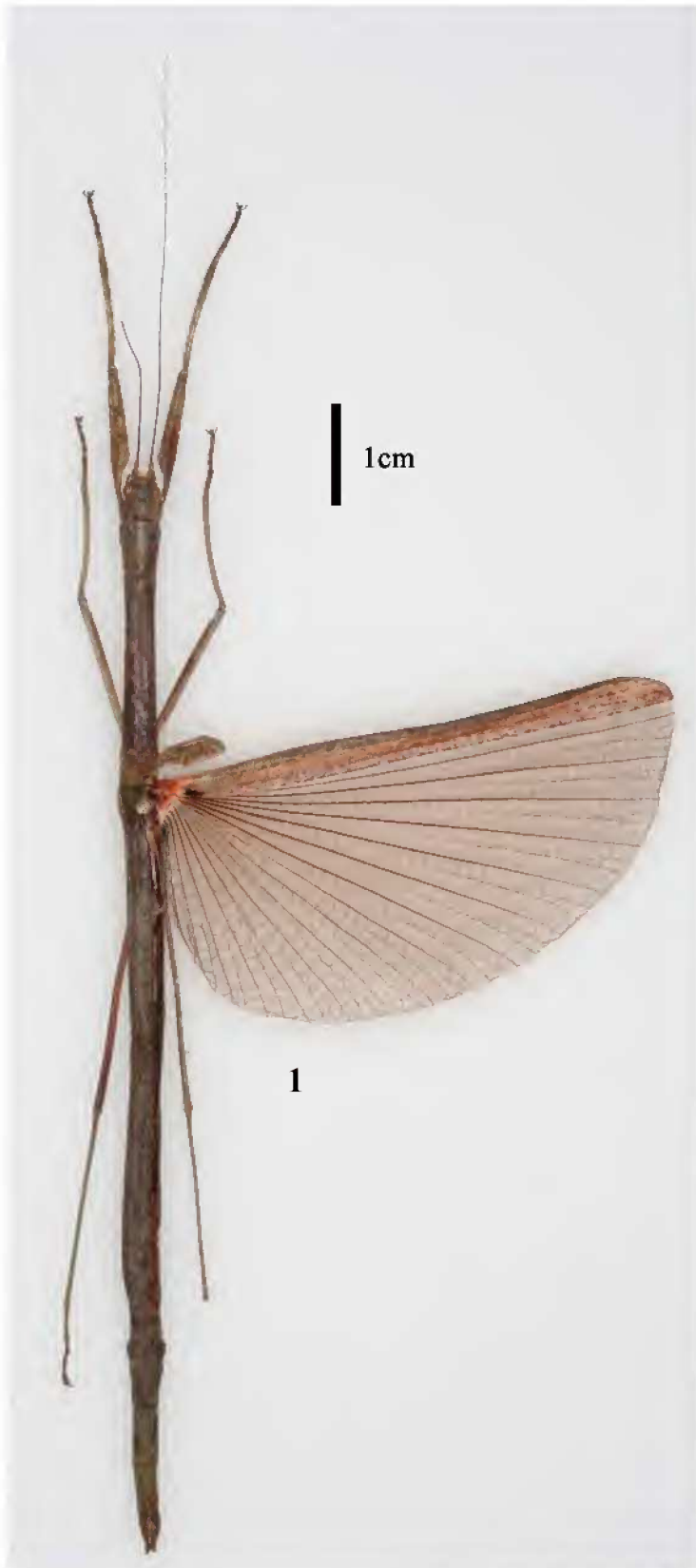
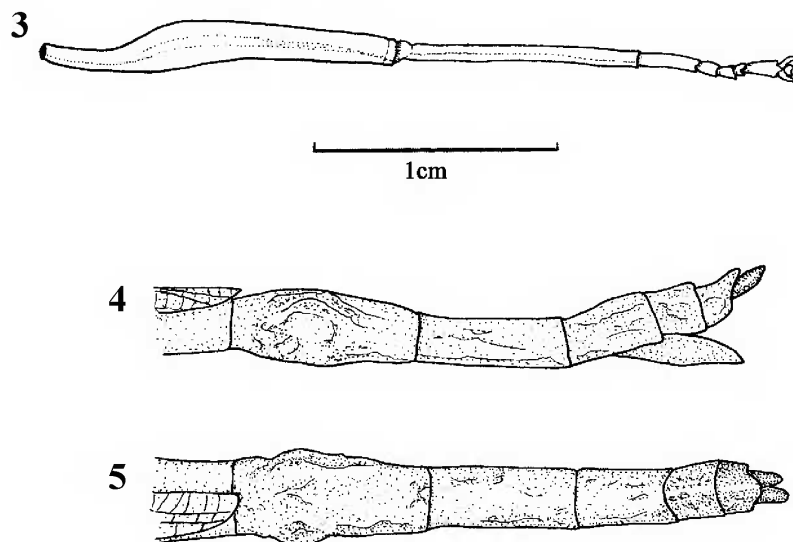


Figure 2.
Underside of abdomen with
praepercular organ arrowed.

Figure 1.
Sosibia lysippus (Westwood),
female from Danum valley.

Elytra about twice as long as wide, with a slight hump. Wings reach to apex of 5th abdominal segment.

Fore legs very short, fore femur broad (fig 3). Tibiae of fore and mid legs clearly shorter than femora; tibia and femur of hind legs of almost equal length. All legs with dorso-posterior carina very indistinct and medio-ventral distinct; basal tarsomere very slightly longer than 2-4 combined. Fore leg with femur only three times length of head; tibia only three quarters length of femur; tarsus more than half as long as tibia. Fore femur triangular in cross-section; posterior and dorsal surfaces on same plane, same width as broadened ventral surface, anterior surface about half as wide. Mid and hind femora slender, with a small pair of lobes at the apex of the medio-ventral carinae. Hind legs reach to apex of 6th abdominal segment.



Figures 3-5. *Sosibia lysippus* (Westwood) female from Danum valley.

3. Right fore leg. 4. Lateral view of abdomen. 5. Dorsal view of abdomen.

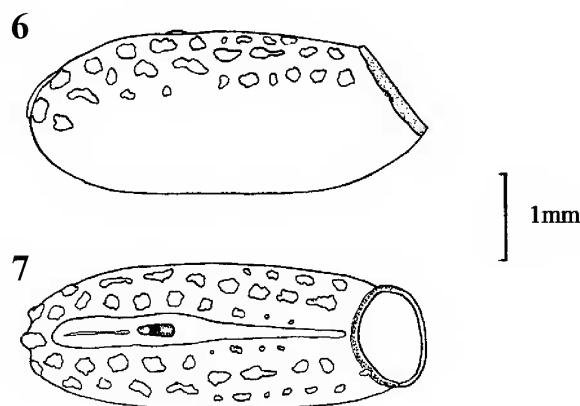
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|----------------|------|-------------|------|
| Total length | 104 | Fore femur | 14.1 |
| Antennae | >41 | Fore tibia | 10.3 |
| Head | 4.9 | Fore tarsus | 6.5 |
| Pronotum | 5.5 | Mid femur | 13.9 |
| Mesonotum | 18.0 | Mid tibia | 10.4 |
| Metanotum | 5.9 | Mid tarsus | 6.6 |
| Median segment | 7.6 | Hind femur | 20.6 |
| Fore wing | 6.0 | Hind tibia | 19.2 |
| Hind wing | 51.0 | Hind tarsus | 7.7 |

Egg (figs 6-7)

The following description is based on a single egg removed from the body cavity; the egg appears to be well developed.

Capsule uniformly mid brown; approximately cylindrical with ventral side slightly flattened, polar end approximately hemispherical, operculum strongly tilted towards the dorsal surface with an opercular angle of about +40°. Surface of capsule smooth on ventral half and with low-lying, flat-topped, irregular projections on dorsal half. Micropylar plate very narrow,

polar end rounded, opercular end narrowing to a thin line that reaches the opercular collar. Operculum flat, slightly higher than wide. Capsule length 4.6mm, height 1.9mm, width 1.7mm; operculum width 0.95mm, height 1.10mm.



Figures 6-7. Egg.
6. Lateral view.
7. Dorsal view.



Figure 8. Distribution map.
Danum Valley is the only specific locality recorded for *Sosibia lysippus*.

Comments on the taxonomy

Based on examination of this specimen, and photographs of the lectotype of *Sosibia macera* Redtenbacher, 1908, it is likely that these are the same species.

The egg, which was removed from the body, is similar to the eggs laid by an unidentified species of Bornean *Sosibia* in my collection, and to those of *Sosibia esacus* (Westwood, 1859) and *Sosibia solida* Redtenbacher, 1908 illustrated by Seow-Choen (2000: plates 79e & 81e). These eggs are strikingly different from the spherical egg of the type species, *Sosibia nigrispina* Stål, 1875. This, combined with the spinose head and strongly humped elytra of the type species, suggests that the genus may need splitting when more is known about the other species.

Acknowledgement

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